

REMARKS

Claims 1 and 3 have been amended to further define the invention, claim 5 has been amended to improve format, and claims 2 and 4 have been canceled. Accordingly, claims 1, 3, and 5-11 are pending.

Applicants respectfully assert that support for amended claims 1 and 3 may be found, for example, at paragraphs [0041] and [0010], respectively, of Applicants' Specification. Accordingly, Applicants respectfully assert that amended claims 1, 3, and 5 do not introduce new matter.

Claim Interpretation

On pages 2 to 3 of the Final Office Action, the Examiner invokes provisions of 35 U.S.C. §112, sixth paragraph, and interprets the features recited by claims 1 and 9 to be commensurate with Applicants' disclosure. However, Applicants respectfully assert that the claimed "means," as recited by claims 1 and 9, are not necessarily limited to the interpretations cited by the Examiner.

Claim Objections

On page 3 of the Final Office Action, claims 1-13 are objected to for minor informalities. Accordingly, Applicants have amended claim 1 in accordance with the Examiner's comments. Thus, Applicants respectfully request that the claim objections be withdrawn.

Claim Rejections Under 35 U.S.C. §112

On page 3 of the Final Office Action, claim 3 stands rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. Accordingly, Applicants have amended claim 3 in accordance with the Examiner's comments. Thus, Applicants respectfully assert that claim 3, as amended, complies with the requirements under 35 U.S.C. §112, and respectfully requests that this rejection be withdrawn.

Claim Rejections Under 35 U.S.C. §103(a)

On pages 3 to 6 of the Final Office Action, claims 1-11 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over various combinations of Nakamura et al. (US 5,423,914), Tomofuji (US 6,142,097), Bernard et al. (US 2002/0153102), Columbo (US 5,951,767), Nyberg et al. (US 4,654,231), Demay et al. (4,813,373), and Takahashi (US 5,588,999). Applicants respectfully traverse these rejections for at least the following reasons.

With regard to independent claim 1, Nakamura et al. merely discloses a film depositing apparatus including a vacuum chamber comprising a first and a second sub-chamber, main (1) and secondary (20) pumping means, several Knudsen cells (31, 32) placed in the lower part of the vacuum chamber. Here, the Knudsen cells are provided with individual operable shutters (19).

According to Nakamura et al., a partitioning plate (21) is provided for dividing the first and the second sub-chambers. The first sub-chamber is located in the lower part of the vacuum chamber and includes the main pumping means (1), and the Knudsen cells. In addition, the second sub-chamber is located in the higher part of the vacuum chamber and includes a sample holder and the secondary pumping means (20). The partitioning plate (21) includes **only one** through opening at the center thereof. Here, Nakamura et al. teaches, col. 6, lines 4-8, that the position of the opening is determined to ensure that a beam emitted from K cells toward the substrate (4) is not obstructed by the partitioning plate (21). In addition, Nakamura et al. teaches, col. 6, lines 17-24, that the partitioning plate (21) includes a gate valve (22), controlled from the outside of the apparatus, for hermetically closing the aforementioned opening. The depositing apparatus also includes shutters (9) positioned in front of the opening of the partitioning plate (21) for controlling the deposition time during the deposition process.

However, Applicants respectfully assert that Nakamura et al. fails to teach or suggest that the wall (23) comprising several of the recesses (26). Accordingly, Nakamura et al. fails to teach or suggest a wall that "includes recesses, each being centered on the main axis of one of the sources of material having the main axis," as explicitly required by at least independent claim 1.

In addition, Nakamura et al. fails to teach or suggest that the chamber "contains means for plugging or clearing each of said recesses, said means being controlled individually to protect the sources of material having a main evaporation axis unused," and comprises "toggling masks actuated by an external toggling device, each mask comprising a blade parallel to the surface of the plate around the recess considered in order to ensure perfect contact between said surface and the mask, when said mask is in plugging position," as explicitly required by at least independent claim 1, as presently amended.

Moreover, Applicants respectfully assert that Tomofuji fails to remedy the deficiencies of Nakamura et al., as detailed above. Specifically, Tomofuji merely discloses a vacuum chamber (7) including a lens holder (2) and evaporation sources (10a-10c) separated by a diaphragm plate (4) used to control the direction of diffusion of the vaporized particles by the evaporation sources (10a-10c). Here, although Tomofuji shows that the diaphragm plate (4) includes openings (5a-5b) associated each one with an evaporation source (10a-10c), Applicants respectfully assert that Tomofuji is completely silent with regard to two pumping units, a wall (23) providing vacuum tightness, or means (27) for plugging or clearing each of said recesses (26), whereby said means are controlled individually to protect the sources having a main evaporation axis (18) unused.

In addition, Applicants respectfully assert that Tomofuji is completely silent with regard to toggling masks actuated by an external toggling device, and that each mask comprises a blade parallel to the surface of the plate around the recess considered in order to ensure perfect contact between said surface and the mask, when said mask is in plugging position. Accordingly, Applicants respectfully assert that the combined teachings of Nakamura et al. and Tomofuji fail to establish a *prima facie* case of obviousness with regard to at least amended independent claim 1.

According to Applicants' invention, the means (27) for plugging or clearing each of said recesses (26) are controlled individually to protect the sources of material having a main evaporation axis unused and comprises toggling masks actuated by an external toggling device, and that each mask comprises a blade parallel to the surface of the plate around the recess considered in order to ensure perfect contact between said surface and the mask, when said mask is in plugging position. As a result, the combination of these features provides an efficient protection for the sources of the second volume (22) whatever the mode of evaporation applied (co-evaporation or not), with a simpler construction in using less elements like shutters and valve gate. Thus, the costs are reduced.

In addition, the combination of these features provide, at the same time, an individual and independent protection of the sources of material (17) of the second volume (22) when the sources of the first and the second volumes are simultaneously used (co-evaporation mode) and further a total and efficient protection of the sources of the second volume (22) when only the sources of the first volume are used. This total and efficient protection of the sources of the second volume (22) when only the sources of the first volume are used is due to the wall which has a total vacuum tightness when all the masks are in plugging position. When the mask is in plugging position, each mask is in contact with the surface of the plate to ensure a vacuum tightness.

Presuming, *arguendo*, the improbable case wherein the combination of Nakamura et al. and Tomofuji would incite the person skilled in the art to provide a wall with several recesses, the combined teachings of Nakamura et al. and Tomofuji do not provide proper motivation with which to provide several masks to plug the respective recesses and even less to use toggling masks having masks comprising a blade parallel to the surface of the plate around the recess considered in order to ensure perfect contact between said surface and the mask, when said mask is in plugging position.

According to Nakamura et al., only one gate valve (22) is provided. Here, the person skilled in the art would have been

naturally incited to use this gate valve (22) to plug all the recesses simultaneously without any motivation to substitute the single gate valve with a plurality of masks. Here, Tomofuji fails to remedy the deficiencies of Nakamura et al.

Even if the combined teachings of Nakamura et al. and Tomofuji resulted in providing a wall with several recesses, the person skilled in the art would have been confronted to a problem consisting of providing a wall having a total vacuum tightness when all the masks are in plugging position and equally a partial vacuum tightness for the co-evaporation mode. In order to solved this problem, the person skilled in the art does not find the solution in Nakamura et al., which does not disclose external toggling devices which are individually controlled, nor that each mask of an external toggling device comprises a blade parallel to the surface of the plate around the recess considered in order to ensure perfect contact between said surface and the mask, when said mask is in plugging position.

As a result, Applicants respectfully assert that the combined teachings of Nakamura et al. and Tomofuji, whether taken individually or combined, fail to render the combination of features recited by at least amended independent claim 1 *prima facie* obvious.

In addition, Applicants respectfully assert that none of Bernard et al., Columbo, Nyberg et al., Demay et al., and

Takahashi, taken in any combination(s), can remedy the deficiencies of Nakamura et al. and Tomofuji, whether taken individually or combined. Specifically, Applicants respectfully assert that the combined teachings of any of Nakamura et al., Tomofuji, Bernard et al., Columbo, Nyberg et al., Demay et al., and Takahashi fail to establish a *prima facie* case of obviousness with regard to at least amended independent claim 1. Thus, Applicants respectfully request that the rejections under 35 U.S.C. §103(a) be withdrawn.

This Response is believed to be fully responsive and to place the application in condition for allowance. Entry of the Amendment, and an early and favorable action on the merits is earnestly requested. Applicants respectfully request that a timely Notice of Allowance be issued in this application.

Should the Examiner believe that any matters need to be resolved in the present application, the Examiner is respectfully requested to contact Applicants' undersigned representative at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment

to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

/David B. Hardy/
David B. Hardy, Reg. No. 47,362
209 Madison Street
Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

DBH/jaa